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MAR 07 2005

**1700-360 Main Street  
Winnipeg, Manitoba  
Canada R3C 3Z3**

**Our File: 84380-902 RWD**

## FACSIMILE COVER LETTER

**OPERATOR: .....HEATHER KIRKPATRICK**

**RE: United States Patent Application no: 09/905,179**  
**Filed January 23, 2001**  
**System and Method for Spacecraft Attitude Control**  
**EXAMINER—Steven N. Meyers GROUP 3600**

**IF ALL PAGES ARE NOT RECEIVED OR ANY ARE NOT LEGIBLE. PLEASE CALL  
AS SOON AS POSSIBLE.**

MAR 07 2005

ATTORNEY DOCKET NO. 84380-902/RWD  
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: Steven N. Meyers  
Group: 3644  
Applicant: Douglas A. Stanley et al.  
Serial No.: 09/905,179  
Filed: January 23, 2001  
For: System and Method for Spacecraft Attitude Control

COMMISSIONER OF PATENTS  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
U.S.A.

**Renewed Petition to Withdraw the Holding of Abandonment Under 37 CFR 1.81**

Dear Sir:

Responsive to the Decision on Petition to Withdraw the Holding of Abandonment dated January 24, 2005, please find enclosed herewith:

- (1) A copy of the original response bearing a signed Certificate of Transmission which includes the date of signing; and
- (2) A Statement Under 37 CFR 1.8(b)(3) attesting to the personal knowledge of transmitting the original response on the date indicated on the Certificate of Transmission.

We look forward to receipt of your confirmation that the abandonment has been withdrawn and that the application is in good standing.

Respectfully submitted,  
Douglas A. Staley



Per:  
RYAN W. DUPUIS  
Registration No. 47,345  
Direct Phone 204-944-0062  
Facsimile 204-942-5723

Date: March 3, 2005

ATTORNEY DOCKET NO. 84380-902/RWD  
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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**STATEMENT UNDER 37 C.F.R. §1.8(b)(3)**

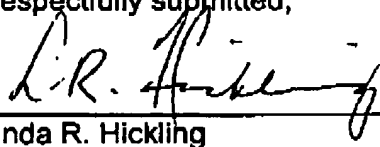
**To Accompany a Renewed Petition to Withdraw the Holding of Abandonment  
Under 37 CFR 1.81**

Dear Sir:

I hereby attest that a response to the Office Action dated January 16, 2003 was timely filed by facsimile transmission on March 24, 2003 in accordance with the certification of facsimile transmission executed on said response and the facsimile confirmation report attached herewith.

Respectfully submitted,

Date: March 3, 2005

  
Linda R. Hickling

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MAR 07 2005

Confirmation Report - Memory Send

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End time : 03-24 03:07pm  
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**AIKINS, MACAULAY & THORVALDSON**

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**FACSIMILE COVER LETTER**

OUR FILE: 003/1US-CIP (5500034)

PLEASE DELIVER THE FOLLOWING PAGES TO:

NAME: ..... COMMISSIONER OF PATENTS - GALEN L. BAREFOOT  
FAX NUMBER: ..... 703-305-7687  
FROM: ..... AIKINS, MACAULAY & THORVALDSON - MURRAY E. THRIFT  
TOTAL NUMBER OF PAGES INCLUDING THIS COVER LETTER: ..... 3  
DATE: ..... MARCH 24, 2003  
PHONE: ..... 204-957-4857 E-MAIL: ..... LindaH@aikins.com FAX: ..... 204-957-4401

RE: United States Patent Application No: ..... 09/805,179  
Applicant: ..... STALEY, DOUGLAS A. ET AL.  
Title: ..... SYSTEM AND METHOD FOR SPACECRAFT ATTITUDE CONTROL  
Examiner: ..... GALEN L. BAREFOOT  
Group: ..... 3844  
Confirmation No.: ..... 2764

Response to Office Action dated JANUARY 16, 2003.

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# AIKINS, MACAULAY & THORVALDSON

Barristers and Solicitors  
Patent and Trademark Agents  
30th Floor - 360 Main Street  
Winnipeg, Mb R3C 4G1

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Applicant: ..... STALEY, DOUGLAS A. ET AL.  
Title: ..... SYSTEM AND METHOD FOR SPACECRAFT ATTITUDE CONTROL  
Examiner: ..... GALEN L. BAREFOOT  
Group: ..... 3644  
Confirmation No.: ..... 2754

Response to Office Action dated JANUARY 16, 2003.

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Examiner: BAREFOOT, Galen L. Attorney Docket No. 003/1US-CIP (5500034)  
Art Group: 3644  
Applicant: STALEY, Douglas A. et al.  
Serial No.: 09/905,179  
Filed: January 23, 2001  
Confirmation No.: 2754  
For: SYSTEM AND METHOD FOR SPACECRAFT ATTITUDE CONTROL

**BOX NON-FEE AMENDMENT**

COMMISSIONER OF PATENTS  
Washington, D.C., 20231

Dear Sir:

This is in response to the Official Action mailed 16 January 2003.

The allowance of Claims 1 through 13 and 22 through 24 is noted with gratitude.

Claim 21 has been rejected as anticipated by Bender et al. Reconsideration is respectfully requested. Claim 21 reads as follows:

"21. A momentum management system for attitude control of a spacecraft, the system having:

a rotor drive having an output rotatable about a drive axis at a variable drive output speed;

a gimbal assembly connected to the drive output;

a momentum wheel rotor rotatable about a rotor axis for storing angular momentum, the rotor being mounted on the gimbal to be rotated about the drive axis by the rotor drive and for tilting movement about transverse axes orthogonal to the drive axis;

a torque generation device for tilting the rotor about the transverse axes;

a sensor for measuring the speed of the rotor rotation about the rotor axis and generating a sensor output representative of said speed; and

drive control means responsive to the sensor output for varying the drive output speed so as to maintain the speed of the rotor rotation substantially constant."

Thus, according to this claim, the sensor measures the speed of the high inertia rotor about the rotor axis. The rotor speed is controlled using that sensed speed. This is different than other systems that sense the motor speed and use the sensed motor speed in the

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**Facsimile 204-957-4401**